

What is claimed is:

1           1. A pulley for a pulley and belt transmission system, the belt having grooves defined by  
2 a series of angled faces, the faces having a groove pitch angle, comprising:

3           a pulley face;

4           a plurality of teeth, having a plurality of pulley tips, circumferentially around the pulley  
5 face, defined by a series of angled walls, the walls having a pulley pitch angle less than the  
6 groove pitch angle; and,

7           at least one surface gap across the plurality of teeth.

1           2. The pulley of claim 1, wherein the pulley pitch angle comprises from about one degree  
2 to about 10 degrees less than the groove pitch angle.

1           3. The pulley of claim 2, wherein the pulley pitch angle comprises from about two  
2 degrees to about 8 degrees less than the groove pitch angle.

1           4. The pulley of claim 3, wherein the pulley pitch angle comprises about five degrees  
2 less than the groove pitch angle.

1           5. The pulley of claim 4, wherein the pulley tip comprise a flattened shape. –

1           6. The pulley of claim 1, wherein the at least one surface gap comprises a plurality of  
2 grooves, at an angle to the plurality of teeth, through the pulley face.

1           7. The pulley of claim 6, from about two to about twenty grooves through the pulley  
2 face.

1           8. The pulley of claim 7, further comprising two pulley sides, the pulley face  
2 therebetween, having at least one hole drilled through one of the pulley sides, the at least one  
3 hole positioned beneath the pulley face.

1            9. The pulley of claim 8, comprising a number of hole pairs drilled through the pulley  
2 sides about equal to the number of grooves through the pulley face.

1            10. The pulley of claim 9, wherein the hole pairs comprise a position proximate to the  
2 grooves through the pulley face.